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EXAMINER	
SULLIVAN, DANIEL M	

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1636	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	09/516,310	LIN ET AL.	
	Examiner	Art Unit	
	Daniel M. Sullivan	1636	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 July 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *6,9-26 and 33* is/are pending in the application.

4a) Of the above claim(s) *16-26 and 33* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *6 and 9-15* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

This Office Action is a reply to the Paper filed 17 July 2007 in response to the Final Office Action mailed 17 January 2007. Claims 16-26 and 33 had been withdrawn from consideration and claims 6, 9-15 and 40 were considered in the 17 January Office Action. Claims 6 and 11 were amended and claim 40 was cancelled in the 17 July Paper. Claims 6, 9-26 and 33 are pending and claims 6 and 9-15 are under consideration.

Response to Arguments Amendment and arguments

Rejections under 35 U.S.C. §112, first paragraph, (enablement):

Claims 6, 10, 11 and 13-15 **stand rejected** and claims 9 and 12 **are newly rejected** (necessitated by amendment as discussed herein below) under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for a method of importing a peptide, polypeptide or protein into a cell of a subject comprising administering to the subject a complex comprising the peptide, polypeptide or protein linked to a mammalian hydrophobic importation competent signal peptide comprising SEQ ID NO: 5, does not reasonably provide enablement for the method practiced with any mammalian hydrophobic importation competent signal peptide as broadly claimed. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make the invention commensurate in scope with these claims.

This rejection is maintained for the reasons stated in previous Office Actions and for the reasons set forth herein below in the response to Applicant's arguments.

As an initial matter, the amended claims are construed according to the following broadest reasonable interpretation thereof in light of the supporting disclosure. The amended claims require that the importation competent signal peptide comprise a hydrophobic portion derived from the hydrophobic portion of a signal peptide of a protein secreted from cells. The claims place no limitation on the extent of derivatization encompassed by "a hydrophobic portion derived from the hydrophobic portion of a signal peptide..." and the specification teaches, "The amino acid residues can be mutated and/or modified (i.e., to form mimetics) so long as the modifications do not affect the translocation-mediating function of the peptide." (Page 11, lines 2-4.) Given the teachings of the specification, an importation competent signal peptide comprising a hydrophobic portion derived from the hydrophobic portion of a signal peptide of a protein secreted from cells still embraces any "sequence of amino acids generally of a length of about 10 to about 50 or more amino acid residues, many (typically about 55-60%) residues of which are hydrophobic such that they have a hydrophobic, lipid-soluble portion" and capable of penetrating through the cell membrane from outside the cell to the interior of the cell as an "importation competent signal peptide" is defined in the specification. (See page 10, lines 13-22.)

With regard to claims 9 and 12, the amendment to claims 6 and 11 substantially expands the scope of the claims by the inclusion of a second recitation of "signal peptide" that could provide the antecedent basis for "the signal peptide" recited in claims 9 and 11. For example, claim 6 now recites that the importation competent signal peptide comprises a hydrophobic portion which is derived from the hydrophobic portion of a signal peptide of a protein secreted from cells. Thus, there is now two signal peptides in claim 6: the importation competent signal

peptide; and the signal peptide of a protein secreted from cells from which the hydrophobic portion of the importation competent signal peptide is derived. If the latter signal peptide is the antecedent for the signal peptide of claim 9, then the importation competent signal peptide of claim 9 embraces any importation competent signal peptide comprising a hydrophobic domain derived from the amino acid sequence set forth in SEQ ID NO: 5. In view of the fact that the claims place no limitation on the degree of derivatization, the scope of claims 9 and 12 is essentially the same as the base claims. Therefore, claims 9 and 12 are now subject to the enablement rejection set forth against the base claims.

Response to Arguments

In response to the *prima facie* rejection and arguments of record, Applicant fist asserts that the claims, as currently amended, do not read on the full scope of importation competent signal peptide as broadly defined in the specification because, Applicant urges, the claims are now drawn to a "signal peptide [that] comprises a hydrophobic portion which is derived from the hydrophobic portion of a signal peptide of a protein secreted from cells." Applicant contends that one of skill in the art would have easily been able to identify such a signal peptide, and select the hydrophobic portion of said peptide.

This argument is not deemed persuasive. As described above, the amended claims construed in view of the supporting disclosure still read broadly on any "sequence of amino acids generally of a length of about 10 to about 50 or more amino acid residues, many (typically about 55-60%) residues of which are hydrophobic such that they have a hydrophobic, lipid-soluble

portion" and capable of penetrating through the cell membrane from outside the cell to the interior of the cell as an "importation competent signal peptide" is defined in the specification.

Next, Applicant asserts that detailed procedures for making and using the invention may not be necessary if the description of the invention itself is sufficient to permit those skilled in the art to make and use the invention. Applicant asserts that the specification does enable one of skill in the art to make and use signal peptides as currently claimed, since all that would have been required by one of skill in the art is to make and use the invention is to identify a signal peptide, and then identify its hydrophobic domain and contends that such signal peptides are identified in generally available databases, and those of skill in the art would have known how to obtain them.

Applicant further cites a passage from MPEP, section 2164.08, which states that how a teaching is set forth, by specific example or broad terminology, is not important; that claims are not rejected as broader than the enabling disclosure under 35 U.S.C. 112 for non-inclusion of limitations dealing with factors which must be presumed to be within the level of ordinary skill in the art; and that the claims need not recite such factors where one of ordinary skill in the art to whom the specification and claims are directed would consider them obvious. Applicant asserts that one of ordinary skill in the art would have been able to easily identify signal peptides, and their hydrophobic portions, based on the teachings in the specification.

This argument is not deemed persuasive in view of the record as a whole. First, it relies on an overly narrow construction of the claims. Furthermore, even if the claims were limited to an importation competent signal peptide comprising the hydrophobic domain of a signal peptide of a protein secreted from cells, the claim scope would still exceed the enabled scope.

Applicant's position remains rooted in the assumption that the hydrophobic portion of a signal peptide of a protein secreted from cells defines a signal peptide as "importation competent".

In previous remarks, Applicant's representative asserts that all signal peptides in the SIGPEP database are importation competent, but fails to provide any evidence to support this contention. It is noted however, that a review of the SIGPEP database did not turn up any statement that the peptides disclosed in the database are importation competent. It is also noted that the specification does not contain any teaching that all peptides in the SIGPEP database are importation competent. Instead, the specification teaches, in a discussion of signal peptides, "In eukaryotes, newly synthesized proteins in the cytoplasm are targeted to the ER membrane by signal sequences that are recognized generally by the signal recognition particle (SRP) and its ER membrane receptors. This targeting step is followed by the actually transfer of protein across the ER membrane and out of the cell through the putative protein-conducting channel. In bacteria, the transport of most proteins across the cytoplasmic membrane also requires a similar protein-conducting channel.[] On the other hand, signal peptides can interact strongly with lipids, supporting the proposal that the transport of some secretory proteins across cellular membranes may occur directly through the lipid bilayer in the absence of any proteinacious channels." (Pages 2-3, citations omitted.) Thus, the specification teaches that what was known in the art was that translocation of most proteins across cellular membranes via a signal peptide dependent mechanism required a protein-conducting channel and speculates that some secretory proteins might cross cellular membranes directly through the lipid bilayer. The specification does not teach that all signal peptides are importation competent, which is defined on page 11 of the

specification as "capable of penetrating through the cell membrane from outside the cell to the interior of the cell".

Furthermore, the only discussion of the SIGPEP database in the specification is found at page 11, wherein the disclosure speculates that information obtained from the database can be used to target certain cell types by using signal peptides from proteins expressed in the targeted cell. This teaching is quite different from the present statement by Applicant's representative that all signal peptides in the SIGPEP database are importation competent and Applicant's assertions in prosecution that the importation competent signal peptides of the instant claims enter cells by a passive diffusion mechanism.

Thus, the disclosure does not assert that all signal peptides in the SIGPEP database are importation competent. Instead, the specification teaches that most signal peptides require the SRP and protein conductance channels, which are structures found in the ER membrane. (See the discussion of Redman et al. at pages 7-8 of the Office Action mailed 13 June 2005.) This is not consistent with the unsubstantiated assertion by Applicant's representative that all peptides in the SIGPEP database are "importation competent" (i.e., capable of penetrating through the cell membrane from outside the cell to the interior of the cell).

In addition, with regard to the hydrophobic domain of a signal peptide, US Patent 6,841,535 (previously made of record), teaches, based on a careful empirical analysis of importation competent peptides, "With regard to the hydrophobic domain, its is clear from the results of transfection experiments using Peps-1.4 and -2.10, the hydrophobic domain alone is not sufficient to transfect drugs, proteins or peptides." (Column 53, ll. 5-9, emphasis added.)

Thus, the post filing art evidences that the vague structural specifications disclosed in the instant application do not define a peptide as importation competent.

Applicant's arguments have been fully considered but are not deemed persuasive in view of the record as a whole. Specifically, in view of the tremendous scope of the importation competent signal peptide of the claims and the very limited knowledge of the structural properties required for importation competence available at the time of filing, identifying those embodiments within the scope of the claims that were conceived but not yet made would clearly require undue experimentation. Therefore, the disclosure fails to enable the invention beyond the scope of the method practiced using an importation competent signal peptide comprising SEQ ID NO: 5.

Rejections under 35 U.S.C. §112, first paragraph, (possession):

Claims 6, 10, 11 and 13-15 **stand rejected** and claims 9 and 12 **are newly rejected** (necessitated by amendment as discussed herein above) under 35 USC 112, first paragraph for insufficient written description for reasons of record and herein below.

The previous Office Action asserts that a recitation of functional characteristics alone does not provide adequate written description for a molecule but must be coupled with a known or disclosed correlation between function and structure.

In response to the *prima facie* rejection and arguments of record, Applicant has amended claims 6 and 11 to recite that the signal peptide comprises "a hydrophobic portion which is derived from the hydrophobic portion of a signal peptide of a protein secreted from cells". Applicant urges that the hydrophobic portions of such signal peptides have structure and

properties that allow such hydrophobic portions to function as importation competent signal peptides. Applicant contends that written description only requires that sufficient written description be provided such that the subject matter of the invention can be distinguished by those of skill in the art and that the application provides a clear written description of both the subject matter of the claims and of what is required to fulfill the scope of the claims. In particular, applicant cites teachings in the specification that the hydrophobic portion of a signal peptide "is a common, major motif of the signal peptide, and it is often a central part of the signal peptide of protein secreted from cells. A signal peptide is a peptide capable of penetrating through the cell membrane to allow the export of cellular proteins" (page 10, lines 28-30) and notes that signal peptides that mediate traffic of proteins through secretory pathway are well known and thus represent a material that those of skill in the art would not misunderstand. Applicant submits that the specification in combination with the knowledge of those of skill in the art sufficiently describes structural features of importation competent signal peptides and that these structural features are correlated with the function of the ability to penetrating through the cell membrane from outside of the cell to the interior of the cell.

The claim amendments and Applicant's argument with regard thereto have been fully considered but are not deemed persuasive. As described above, the claims interpreted as broadly as reasonable in light of the supporting disclosure do not limit the importation competent signal peptide to comprising the hydrophobic portion of a signal peptide of a protein secreted from cells. Given the teachings of the specification, an importation competent signal peptide comprising a hydrophobic portion derived from the hydrophobic portion of a signal peptide of a protein secreted from cells still embraces any "sequence of amino acids generally of a length of

about 10 to about 50 or more amino acid residues, many (typically about 55-60%) residues of which are hydrophobic such that they have a hydrophobic, lipid-soluble portion" and capable of penetrating through the cell membrane from outside the cell to the interior of the cell as an "importation competent signal peptide" is defined in the specification. (See page 10, lines 13-22.)

Furthermore, even if the claims had been limited to comprising the hydrophobic portion of a signal peptide of a protein secreted from cells, the art teaches that a hydrophobic portion alone does not define a peptide capable of penetrating through the cell membrane from outside the cell to the interior of the cell. As described above, US Patent 6,841,535 teaches, based on a careful empirical analysis of importation competent peptides, "With regard to the hydrophobic domain, its is clear from the results of transfection experiments using Peps-1.4 and -2.10, the hydrophobic domain alone is not sufficient to transfect drugs, proteins or peptides." (Column 53, ll. 5-9; emphasis added.) Thus, the presence of a "hydrophobic region" alone is not sufficient to make an peptide importation competent and the vague teachings of the specification cannot be considered a description of the relevant identifying characteristics of an importation competent signal peptide. Furthermore, as discussed in previous Office Actions, Applicant's assertion that all that is required for importation competence is a "hydrophobic region" is inconsistent with Applicant's own teachings in the post filing art. For example, in answering the question, "How does SSHR, with its positively charged cargo, pass through the membrane phospholipid bilayer?", Veach et al. (2004) *J. Biol. Chem.* 279:11425-11431 (previously made of record) postulates two mechanisms, i.e. a looping-unlooping mechanism and a tilted peptide mechanism. (See especially Figure 5 and the caption thereto and the first full paragraph on page 11430.) Both

of these mechanisms are based on a helical structure of signal peptide and the presence of a proline within the sequence as a helix-bending residue to form a "helical hairpin". Neither of the structures that form the basis for the mechanisms proposed by Veach et al. are contemplated in the instant application. The post-filing teachings of the '535 Patent and Veach et al. clearly evidence that the structure that defines the function of an importation competent signal peptide is more complex than the mere presence of about 55% hydrophobic residues in a 10 amino acid sequence and that the critical structures are not disclosed in the instant application.

Next, Applicant points out that the specification gives the example of the signal peptide of K-FGF (page 20) as well as other signal peptides, such as those found in the SIGPEP database and contends that it has since been demonstrated that a variety of signal peptides, including those found in the SIGPEP database, can be used to import a very wide range of cargo. In view of this, Applicant contends, the specification provides sufficient structural description of the claimed importation competent signal peptides, both in terms of structural features and by reference to known structures. Applicant submits that the hydrophobic portion of any known signal peptide or any signal peptide of a protein translocated through secretory pathway will have the structure and properties that allow such hydrophobic portions to function as importation competent signal peptides.

Regarding the single species of the invention actually demonstrated in the application to have the properties of an importation competent signal peptide, it is noted that the Federal Circuit has held, "A patentee will not be deemed to have invented species sufficient to constitute the genus by virtue of having disclosed a single species when ... the evidence indicates ordinary artisans could not predict the operability in the invention of any species other than the one

disclosed." *In re Curtis*, 354 F.3d 1347, 1358, 69 USPQ2d 1274, 1282 (Fed. Cir. 2004)(Claims directed to PTFE dental floss with a friction-enhancing coating were not supported by a disclosure of a microcrystalline wax coating where there was no evidence in the disclosure or anywhere else in the record showing applicant conveyed that any other coating was suitable for a PTFE dental floss.) In the instant case, the record clearly evidences the unpredictable nature of the art and, therefore, disclosure of a single operable embodiment does not support the genus presently claimed.

With regard to the applications disclosure of the SIGPEP database, Applicant's representative provides no basis for the assertion that all signal peptides disclosed in the SIGPEP database are importation competent and a review of the SIGPEP database did not turn up any statement that the peptides disclosed in the database are importation competent. It is also noted that the specification does not contain any teaching that all peptides in the SIGPEP database are importation competent. Instead, the specification teaches, in a discussion of signal peptides, "In eukaryotes, newly synthesized proteins in the cytoplasm are targeted to the ER membrane by signal sequences that are recognized generally by the signal recognition particle (SRP) and its ER membrane receptors. This targeting step is followed by the actual transfer of protein across the ER membrane and out of the cell through the putative protein-conducting channel []. In bacteria, the transport of most proteins across the cytoplasmic membrane also requires a similar protein-conducting channel.[] On the other hand, signal peptides can interact strongly with lipids, supporting the proposal that the transport of some secretory proteins across cellular membranes may occur directly through the lipid bilayer in the absence of any proteinacious channels." (First paragraph on page 3, citations omitted.) Thus, the specification teaches that what was known in

the art was that translocation of most proteins across cellular membranes via a signal peptide dependent mechanism required a protein-conducting channel and speculates that some secretory proteins might cross cellular membranes directly through the lipid bilayer. The specification does not teach that all signal peptides are importation competent, which is defined on page 11 of the specification as "capable of penetrating through the cell membrane from outside the cell to the interior of the cell".

Furthermore, the only discussion of the SIGPEP database in the specification is found at page 11, wherein the disclosure speculates that information obtained from the database can be used to target certain cell types by using signal peptides from proteins expressed in the targeted cell. This teaching is quite different from the present statement by Applicant's representative that all signal peptides in the SIGPEP database are importation competent and Applicant's assertions in prosecution that the importation competent signal peptides of the instant claims enter cells by a passive diffusion mechanism.

Thus, the disclosure does not assert that all signal peptides in the SIGPEP database are importation competent. Instead, the specification teaches that most signal peptides require the SRP and protein conductance channels, which are structures found in the ER membrane. (See the discussion of Redman et al. at pages 7-8 of the Office Action mailed 13 June 2005.) This is not consistent with the unsubstantiated assertion by Applicant's representative that all peptides in the SIGPEP database are "importation competent" (i.e., capable of penetrating through the cell membrane from outside the cell to the interior of the cell).

Finally, Applicant asserts that the written description requirement may be satisfied if in the knowledge of the art the disclosed function is sufficiently correlated with a particular, known

structure. Applicant urges that the application provides the correlation as well as a structural description, so there is no need for the art to provide a correlation of structure to function and, nevertheless, the knowledge in the art of the correlation of the structure of signal peptides with the function of trafficking of proteins having signal peptides through secretory pathway provides extra support to written description of the claimed importation competent signal peptides because Applicants have discovered that features of known signal peptides are highly relevant to the claimed importation function.

This argument has been fully considered but is not deemed persuasive because it again rests on the unsubstantiated assertion that the structural characteristics disclosed in the specification (i.e., the presence of typically 55-60% hydrophobic residues in a sequence of about 10 to about 50 amino acid residues) correlates with the function of "importation competence". In fact, many proteins comprise segments having the structural characteristics identified in the application as defining an importation competent signal peptide. For example, the V5 epitope tag comprises the sequence PIPNPLLLGL, which is a 10 amino acid sequence comprising 50% highly hydrophobic residues. Therefore, if it is Applicant's position that any polypeptide comprising the structural limitations set forth in the specification is necessarily an importation competent signal peptide then it must be assumed, absent evidence to the contrary, that the V5 epitope tag or any other peptide segment comprising about 50% hydrophobic residues in about 10 amino acids is an importation competent signal peptide.

Furthermore, as described above, the teachings of the specification appear to endorse a mechanism of translocation for most signal peptide bearing proteins that involves protein structures of the ER membrane, which would not be present in eukaryotic cell plasma

membranes such that the mechanism of translocation across the ER membrane can be extended to translocation from outside of the cell to the interior of the cell. Still further, the post filing art (i.e., the '535 patent and Veach et al. *supra*) evidence that the structural elements required to obtain importation competence extends beyond the mere presence of typically 55-60% hydrophobic residues in a sequence of about 10 to about 50 amino acid residues. Therefore, neither the prior art nor the instant application discloses the relevant identifying characteristics of the "importation competent signal peptide" of the claims.

Applicant's arguments have been fully considered but are not deemed persuasive in view of the record as a whole. Therefore, the claims stand rejected under 35 U.S.C.§112, first paragraph, as lacking adequate written description.

New Grounds Necessitated by Amendment

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 9 and 12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claims are indefinite in reciting "the signal peptide". As described above, amended base claims 6 and 11 now recite two "signal peptides" (i.e., an importation competent signal peptide and a signal peptide of a protein secreted from cells). As it is unclear which of the signal

peptides of the base claims is the antecedent of the signal peptide of claims 9 and 12 the antecedent basis of the claim limitation is unclear.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel M. Sullivan whose telephone number is 571-272-0779. The examiner can normally be reached on Monday through Friday 6:30-3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Woitach, Ph.D. can be reached on 571-272-0739. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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For all other customer support, please call the USPTO Call Center (UCC) at 800-786-9199.

/Daniel M. Sullivan/
Primary Examiner
Art Unit 1636